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APHIS 91-9
November 1972

Cooperative State-Federal

HOG CHOLERA ERADICATION PROGRAM

PROGRESS REPORT 1971

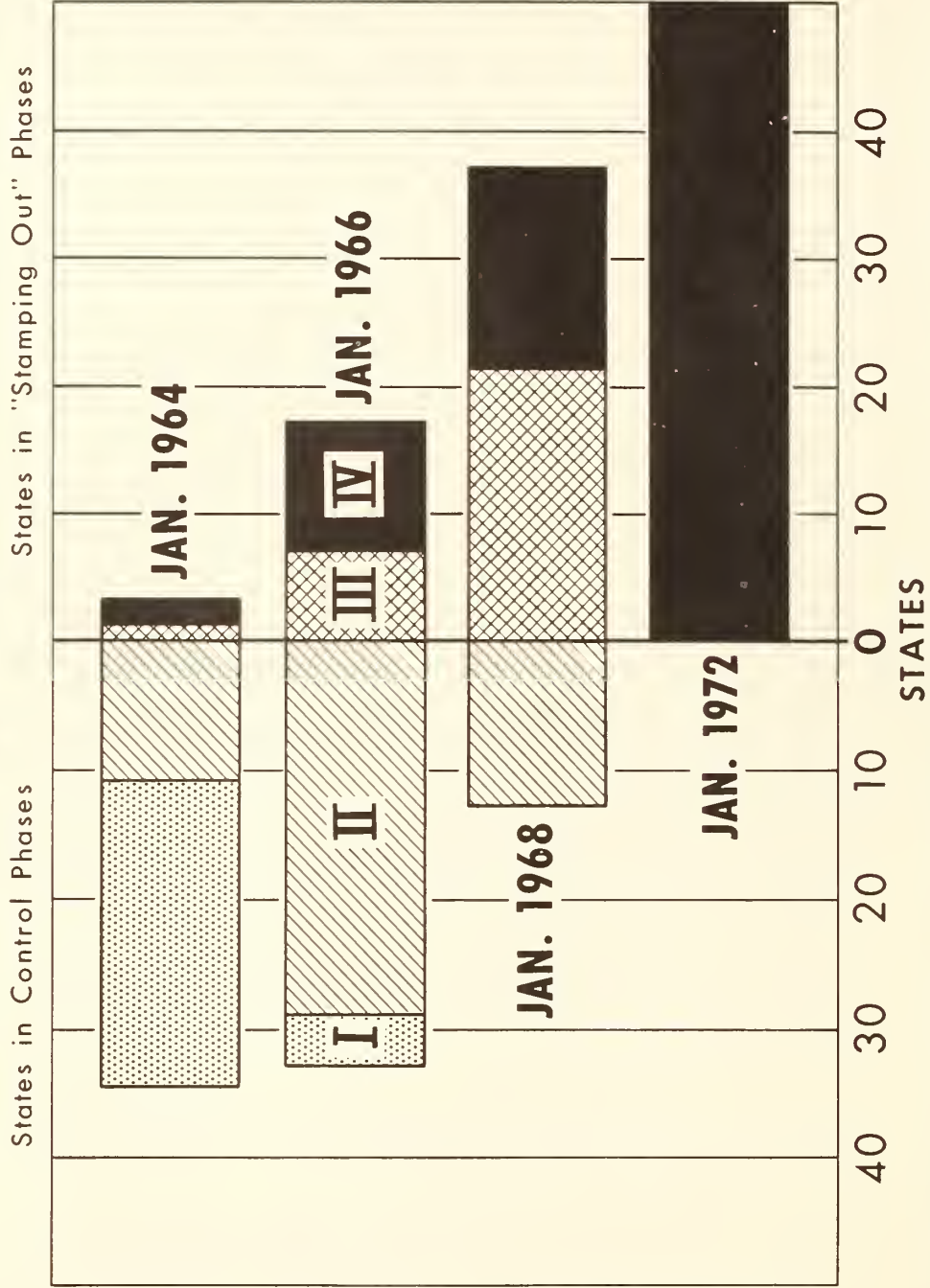
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Hog Cholera Eradication

PROGRESS OF STATES IN ERADICATION PROGRAM



COOPERATIVE STATE-FEDERAL HOG CHOLERA ERADICATION PROGRAM

PROGRESS REPORT 1971

INTRODUCTION

At the end of 1971, all production of hog cholera vaccine and serum had ceased within the United States. Biologics manufacturers had voluntarily surrendered their licenses to produce these materials. Every State had prohibited the use of hog cholera vaccines. Thirty-two States were officially hog cholera free, and all but one had advanced to Phase IV or above. Incidence of the disease was the lowest on record.

These are examples of the outstanding progress achieved in the Cooperative State-Federal Hog Cholera Eradication Program during Calendar Year 1971. All statistics indicated that the program was heading into the final stage. Nationwide eradication had become highly probable within the near future.

But a good record does not guarantee ultimate success. A few stubborn reservoirs of hog cholera virus still plague the program. In the last three weeks of the year a major resurgence of hog cholera occurred in south Texas, a resurgence that carried over into 1972.

The outstanding feature of the program in 1971 was the sharp drop in cases. Only 118 positive cases were recorded during the year, a fantastic drop of 83 percent below the preceding year—and 1970's record was in itself a decline of 54 percent below the incidence reported in 1969. More remarkable yet is the fact that of the 118 cases during the year, only 18 occurred after July 1.

The low incidence was reflected in the progress made by the States toward achieving hog cholera free status. At the start of 1971, there

were 17 "free" States, 17 States in Phase IV, 14 States and Puerto Rico in Phase III, and only two States in Phase II (the control phase). By the end of the year, the number of "free" States had risen to 32, and 17 States and Puerto Rico were in Phase IV. Only one State was in Phase III, and even this State, Texas, had briefly achieved Phase IV status before having to drop back to III as a result of a major outbreak in December.

The 15 States that became hog cholera free during the year were: Iowa, Georgia, Arizona, Maine, Pennsylvania, Delaware, Kansas, Colorado, Maryland, Hawaii, Nebraska, Connecticut, New York, Alabama, and South Carolina (officially announced on January 1, 1972). Two of these, Arizona and Maine, moved from Phase II to "free" within the same year.

Credit for this progress is largely due to the continuing effect of measures taken in previous years, such as Federal prohibition against vaccines (with prohibition by the States), the use of State-Federal task forces to eradicate major outbreaks, establishment of Federal quarantines when hog cholera is found, and stronger controls over market movements.

These measures were reinforced by several new steps taken in 1971. The salvage of exposed swine through slaughter was eliminated nationwide in March. A "Voluntary Isolation Plan" was developed by the U.S. Department of Agriculture and the U.S. Animal Health Association to protect swine herds against the introduction of diseases—hog cholera leading the list.

In August, the Federal share of indemnity payments was increased to 90 percent for isolated outbreaks in hog cholera free States and 75 percent under the same circumstances in Phase IV States. All States conducted a search for privately held stocks of hog cholera vaccines and virus.

At its November meeting in Oklahoma City, the Secretary of Agriculture's National Hog

Cholera Eradication Advisory Committee reflected the concern needed to continue this year's excellent record. The 12-member body urged all producers, veterinary practitioners, and pharmacists to turn in all vaccines that may still be stored away. They further warned against apathy and urged farmers to report every suspected case of hog cholera.

OUTBREAK INVESTIGATION

The 118 hog cholera cases reported in 1971 marked the lowest incidence of the disease ever recorded. This figure was 78 percent less than the previous low of 534 cases recorded in 1966, and less than one-fifth of the number reported in 1970. An estimated 5,000 to 6,000 cases

occurred annually in the early 1960's, before the start of the hog cholera eradication program.

Shown below are the number of suspicious and confirmed cases each year since 1964, when these statistics first became available.

	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>
Suspicious cases, number	1,664	1,701	1,499	3,143	4,553	6,484	5,716	3,878
Confirmed cases number	1,117	881	534	854	822	1,481	679	118
Confirmation rate, percent	67	52	36	27	18	23	12	3

The extremely low incidence is reflected in the fact that positive cases were only 3 percent of the total suspicious cases reported. Similar levels of positive cases occurred in Great Britain and Canada in the final stages of their successful eradication programs.

On the other hand eradication depends on high-level reporting of all suspicious cases, whether or not hog cholera is diagnosed as a result of the investigations. The record for 1971 does not indicate such a level of reporting; the 3,878 suspicious cases represent a 22-percent drop below the 1970 level, which itself had dropped 13 percent below 1969.

The pattern of outbreaks in 1971 showed the progress toward eradication. One-hundred of the year's 118 hog cholera cases occurred in the first six months. Similarly, out of the 485 exposed

herds condemned in 1971, all but 65 were found during the first half of the year. Only 3 hog cholera cases were found each month in July and August, and the number dropped to only 1 case each month in September, October, and November. However, in December, hog cholera showed its persistence once again in a major south Texas outbreak—nine positive and 54 exposed cases were recorded there in that month.

As is expected in the final stages of eradication, hog cholera cases are concentrated mainly in a few major outbreaks, while isolated cases appear occasionally at other widely separated places. Texas and North Carolina accounted for nearly three-fourths of the year's total, 55 and 24 cases respectively. The remaining 39 cases were scattered over 19 States, in which there was rarely more than one case in a single month.

Intensive State-Federal eradication campaigns, using the task-force approach, were employed in North Carolina and Texas during the year.

In North Carolina, the Dismal Swamp campaign had virtually completed its work in the first three months, and Federal coordination of the task-force was discontinued after April 1; the State's last positive case in 1971 was reported on June 1.

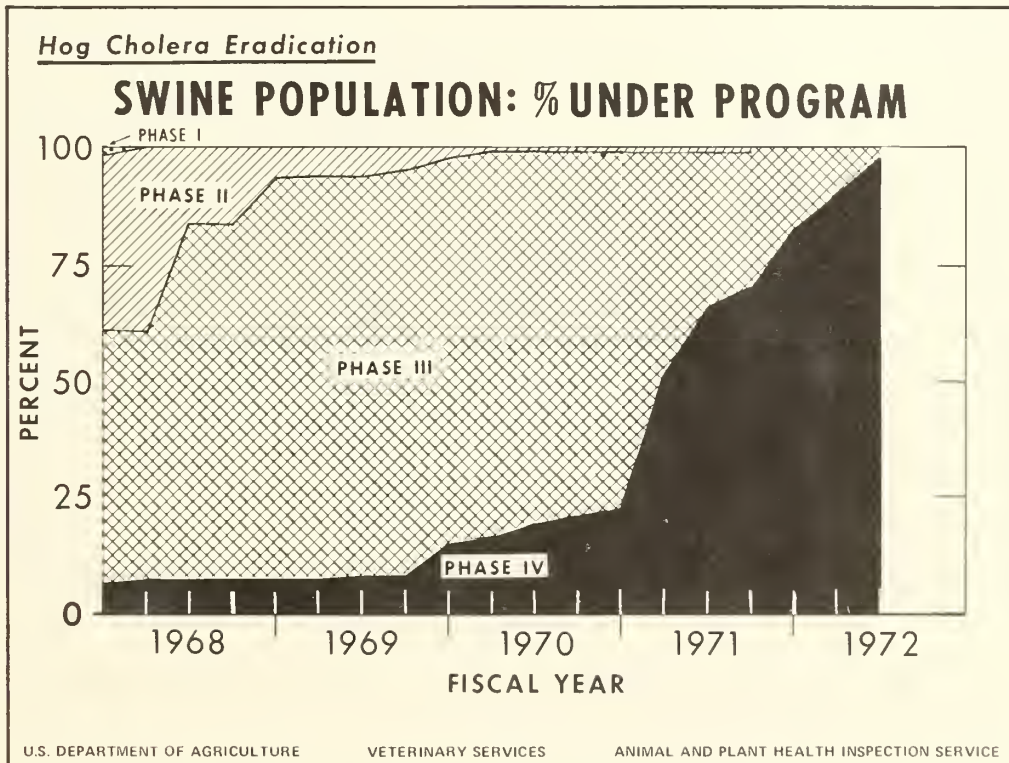
A State-Federal Task Force was organized April 1 in Waco, Texas, to launch a concerted effort against persistent hog cholera infections in that State that long had resisted eradication efforts. The move was made after Texas had experienced 30 confirmed hog cholera cases since the first of the year and had 32 counties under quarantine. The State imposed a 60-day hold order on all swine movements, except for swine moving to slaughter. A team of livestock inspectors, diagnosticians, and epidemiologists conducted an intensive survey in 32 counties. Within three months hog cholera appeared no longer to be a major problem in the State and the Waco hog cholera office was discontinued in June.

On December 15, however, hog cholera reappeared with a new virulence in south Texas. Nine cases were reported before the year's end.

Outside of these intensive campaign areas, however, eradication efforts depended entirely on the vigilance of swine producers, market operators, veterinary practitioners, and animal health officials. Their quick response to suspected and confirmed outbreaks showed up in 19 States, where confirmed outbreaks were contained and eradicated without significant spread to other areas.

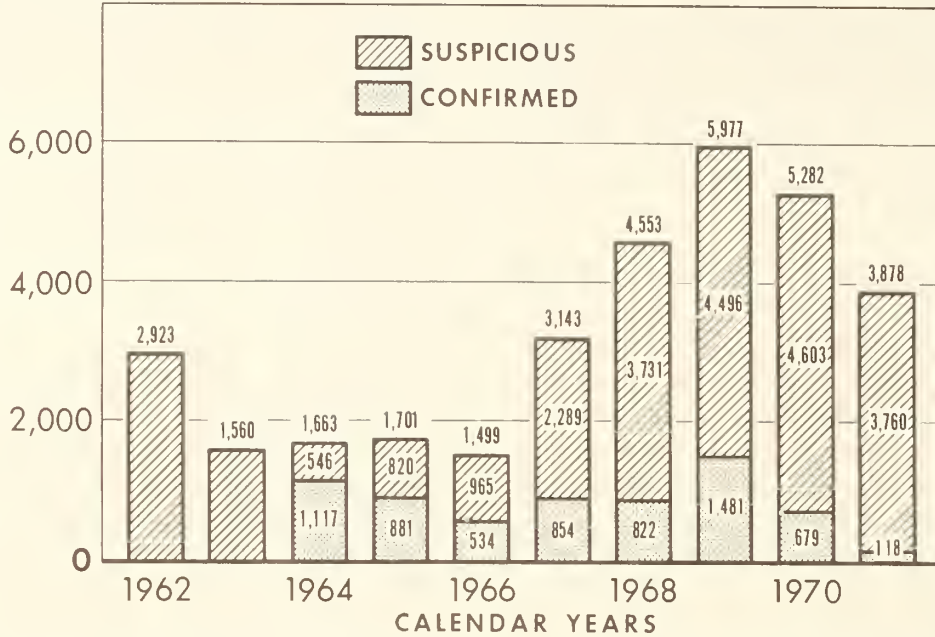
From July until the south Texas outbreak, hog cholera was so rare that each individual case achieved news value in its own right. July was marked with one case each in three States—Mississippi, Rhode Island, and Texas. Three cases were recorded in August, all in Puerto Rico. One case occurred in September, in Texas; one in October, in Pennsylvania; and one in November in New Jersey.

Twenty-nine States reported no infection during 1971, compared with 20 for 1970, and 16 for the preceding two years.



HOG CHOLERA CASES REPORTED

NUMBER CASES

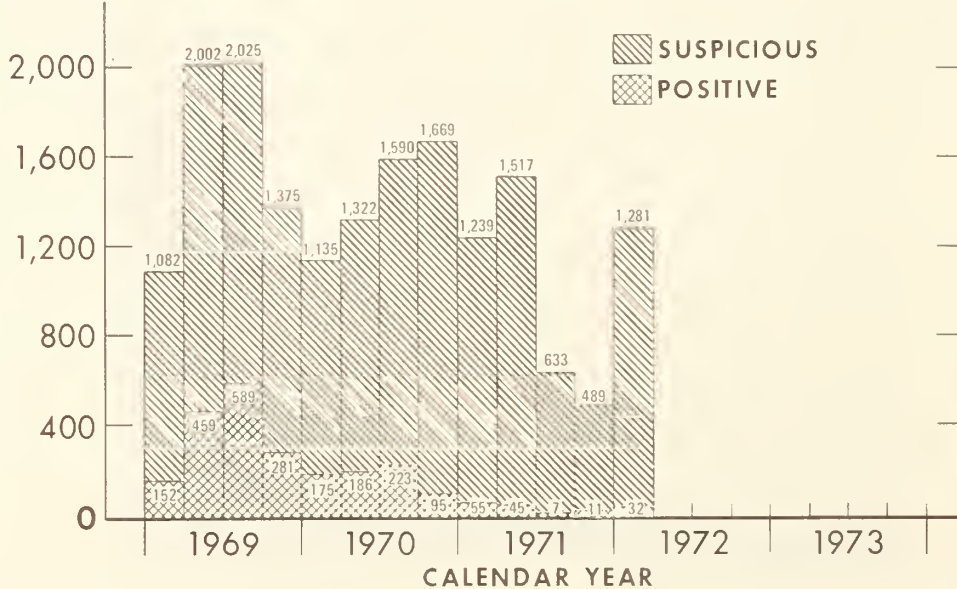


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HOG CHOLERA CASES REPORTED

(By Quarter)

NUMBER CASES



U.S. DEPARTMENT OF AGRICULTURE VETERINARY SERVICES ANIMAL AND PLANT HEALTH INSPECTION SERVICE

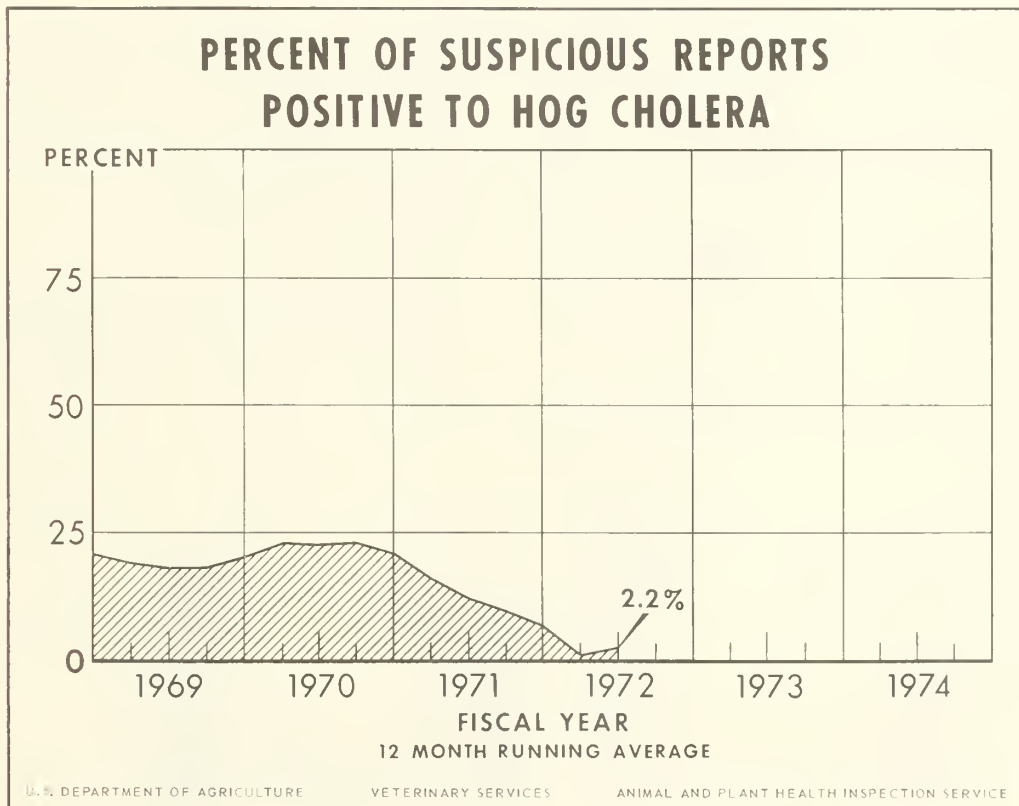
METHODS OF SPREAD

During 1971, hog cholera most frequently was spread through the movement of infected swine or by area spread. These two methods of spread accounted for 59 percent of the 118 confirmed cases. Raw garbage feeding accounted for slightly over 14 percent. Illegal vaccination was responsible for 2.5 percent of the cases, while approximately one-fourth of all cases could not be associated directly with any single method of spread.

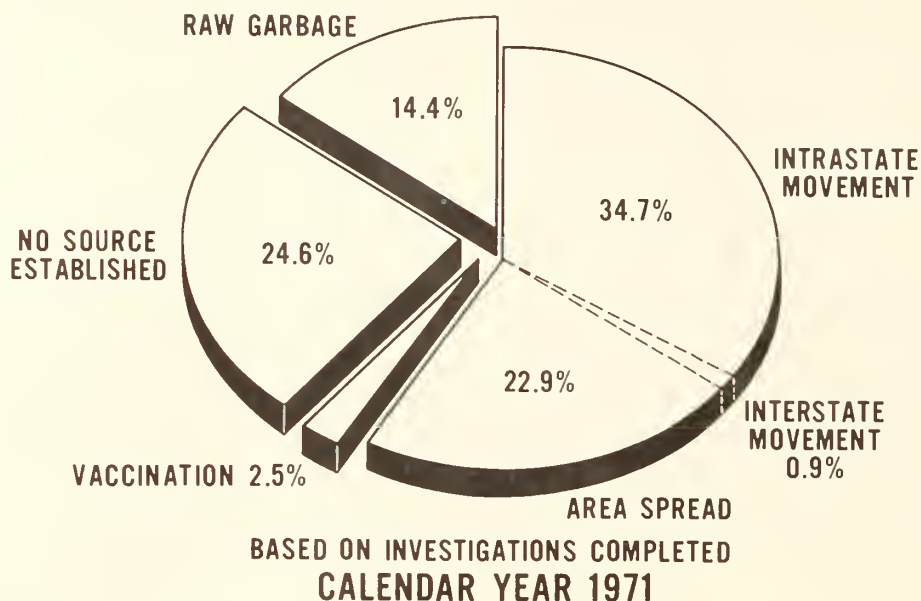
There are large percentage differences between the above figures and those shown in the *1970 Progress Report*; however, they are of little significance in light of the 83 percent drop in cases nationwide. Each individual case in the

current report now assumes a greater weight than in previous years, whereas tremendous reductions in hog cholera spread have been attained in all areas.

The large proportional increase in cases for which no source was established can be attributed partially to the low virulence of many hog cholera cases encountered in the final stages of eradication. Many of the isolated cases are confirmed only after a long period of low but chronic infection with few overt symptoms. Cases without established source of spread also include those for which several means of spread were possible and no single cause can clearly be implicated.



METHODS OF SPREAD



U.S. DEPARTMENT OF AGRICULTURE VETERINARY SERVICES ANIMAL AND PLANT HEALTH INSPECTION SERVICE

The major problems in hog cholera spread continue to be in the areas of market movements and food waste feeding. The impact of area spread has been reduced during outbreaks by the aggressive use of quarantines and the prompt depopulation of positive and exposed herds; however, there remains the constant threat of infection through the movement of sick hogs, or "poor doers," through market channels. Animal health officials are also concerned over the possibility of reinfection and

subsequent spread through the feeding of raw or improperly cooked cholera-infected pork scraps in food wastes fed to swine. These herds have a great potential for reintroducing hog cholera into many "free" areas.

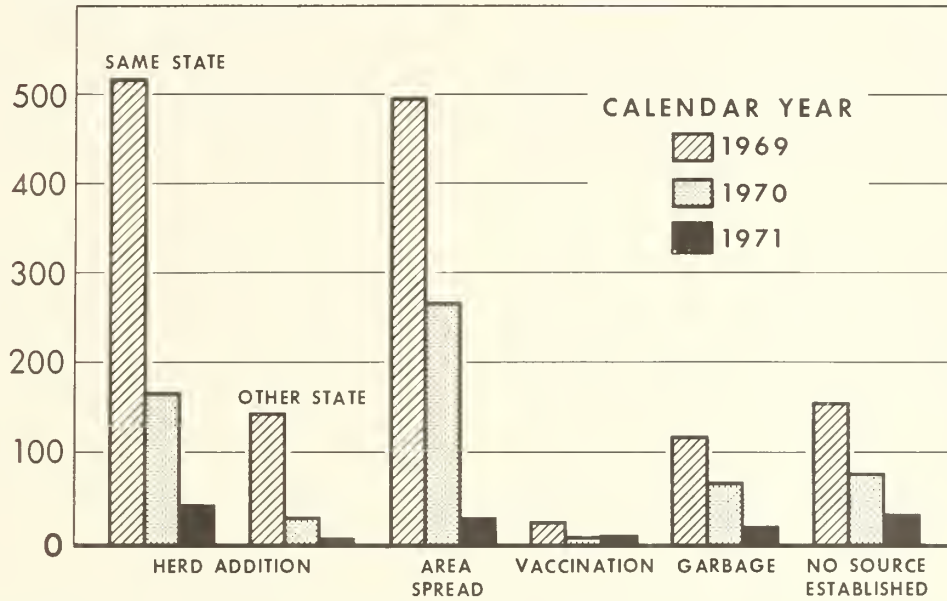
Below are shown the data on the number of cases investigated in 1971 and the percentages attributed to different methods of hog cholera spread.

	<u>1971</u>	<u>1970</u>	<u>1969</u>	<u>1968</u>	<u>1967</u>	<u>1966</u>	<u>1965</u>	<u>1964</u>
Total number of cases for which investigations were completed. . .	118	603	1,452	822	854	534	881	1,117
Percentage of cases attributed to:								
Herd additions . . .	36	32	45	39	18	17	25	21
Vaccination	2	--	1	9	31	29	10	9
Area Spread	23	44	34	31	26	25	25	25
Feeding raw garbage	14	11	9	12	5	7	5	3
No source established	25	13	11	9	20	22	35	42

HOG CHOLERA CASES

Methods of Spread

NUMBER CONFIRMED CASES



U.S. DEPARTMENT OF AGRICULTURE

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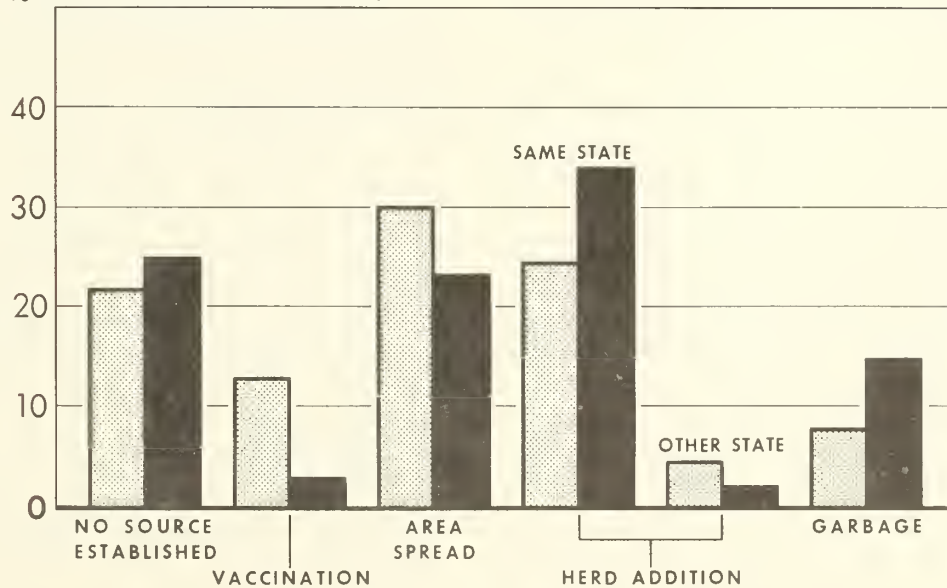
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

SOURCES OF HOG CHOLERA CASES

Average for Calendar Years 1964 thru 1970

1971

% OF CONFIRMED CASES



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REPORTING AND DIAGNOSIS

Nearly all States publicize hog cholera outbreaks as a means of getting better reporting and compliance. Forty States provide information regularly to newspapers and 36 publicize by radio. Forty-five States utilize Extension Service channels in one or more ways to reach such audiences as veterinary practitioners, market operators, farm organizations, and local county residents.

In the year-end survey of State-Federal hog cholera eradication activities, all States and Puerto Rico indicated that they required veterinary practitioners, diagnostic laboratories, and meat inspectors to report suspected hog cholera cases. Similar reporting was required of swine

owners and livestock market operators in nearly every State. Nearly three-fourths of the States obtain mortality and morbidity data from slaughter plants, while four-fifths also obtain data from diagnostic laboratories and veterinary practitioners. All investigations of suspected hog cholera cases are reported to the Swine Diseases Staff, APHIS, Hyattsville, Md.

In conducting investigations of suspected hog cholera cases, 41 States make white blood cell counts whenever illness is observed in a swine herd. Twenty-three States take tonsil biopsy in all hog cholera investigations. Serum neutralization tests are used in 28 States and Puerto Rico for epidemiological and survey purposes.

PROGRAM OPERATIONS

Operations of the hog cholera eradication program were highlighted in 1971 by activities in several major areas of work: The revision of Federal Regulations, quarantines, markets and surveillance. A further development was the preparation of a Federally-approved "Voluntary Isolation Plan for Swine Herd Health," designed not only to prevent the spread or introduction of hog cholera, but to protect swine herds from diseases in general.

Regulations

Since its start, the hog cholera eradication program has rested on a foundation of Federal Regulations that authorize the measures needed to eradicate this deadly and contagious disease of swine. The "Bible" of the program has been Title 9, Code of Federal Regulations, Part 76 (9 CFR 76). Various sections define the terms used, regulate markets, authorize quarantines, limit various types of interstate swine movements, and establish other rules under procedures prescribed by law.

As eradication progressed, the regulations have been changed periodically to reflect new scientific knowledge, changing conditions, and

stronger measures. These amendments kept regulations abreast of current program standards, but confusion resulted as more amendments were added over the years.

To eliminate confusion and to make the regulations correspond more directly to program standards, 9 CFR 76 was completely revised in 1971. The revised regulations were published in the *Federal Register* on November 11, after months of preparation. Thirty days were given for public comment.

The revised 9 CFR 76 became official with its publication in the February 17, 1972, *Federal Register*. The new regulations did not change the existing program, but implemented the program standards in clear, concise language. They included new and revised definitions, and provisions for Phase IV and "hog cholera-free" States to retain their status when isolated, primary hog cholera cases occur and the infected herds are promptly destroyed. "Free" States that lose their status because of spread from primary cases were permitted to regain that status after a period of six months without infection.

The most extensive change involved the format for interstate shipping rules, which were

redescribed in concise statements for each type of permitted swine movement, supported by a separate schedule that detailed the restrictions on each such movement.

Although these regulations were officially promulgated in 1972, they represent a major accomplishment of the hog cholera eradication program for the year 1971.

Quarantines

Federal quarantines on interstate swine movements have been placed on areas surrounding hog cholera outbreaks since November 1969. Boundaries of quarantine areas are determined cooperatively by State and Federal officials to coincide, in most cases, with State quarantines that regulate intrastate swine movements.

During 1971, joint State-Federal quarantines were used in 98 counties in 21 States and Puerto Rico. During April, the area reached a peak, when more than 50 counties or parts of counties in 12 States were under quarantine at one time. In the fall, however, the sharp drop in hog cholera cases resulted in the virtual elimination of hog cholera quarantines; for three months, September through early December, Federal quarantines were in effect only in the Commonwealth of Puerto Rico and in no more than two counties at any single time within the 50 States. At the end of the year, the resurgence of hog cholera in Texas resulted in extensive quarantines in the southern part of that State.

In the year-end survey, all States indicated that they had the necessary authority to impose quarantines for hog cholera, and in 38 States and Puerto Rico such quarantine would be imposed on the basis of suspicious (pending confirmation) cases as well as for positive diagnosis. All but two States had authority to quarantine entire counties as well as the infected premises or portions of counties. Forty-five States and Puerto Rico said they would consider quarantining the entire State if circumstances suggested the need for such action. Every State except one reported that they had the authority

to issue Statewide "standstill" orders, which halt the movement of feeder and breeder swine throughout the State.

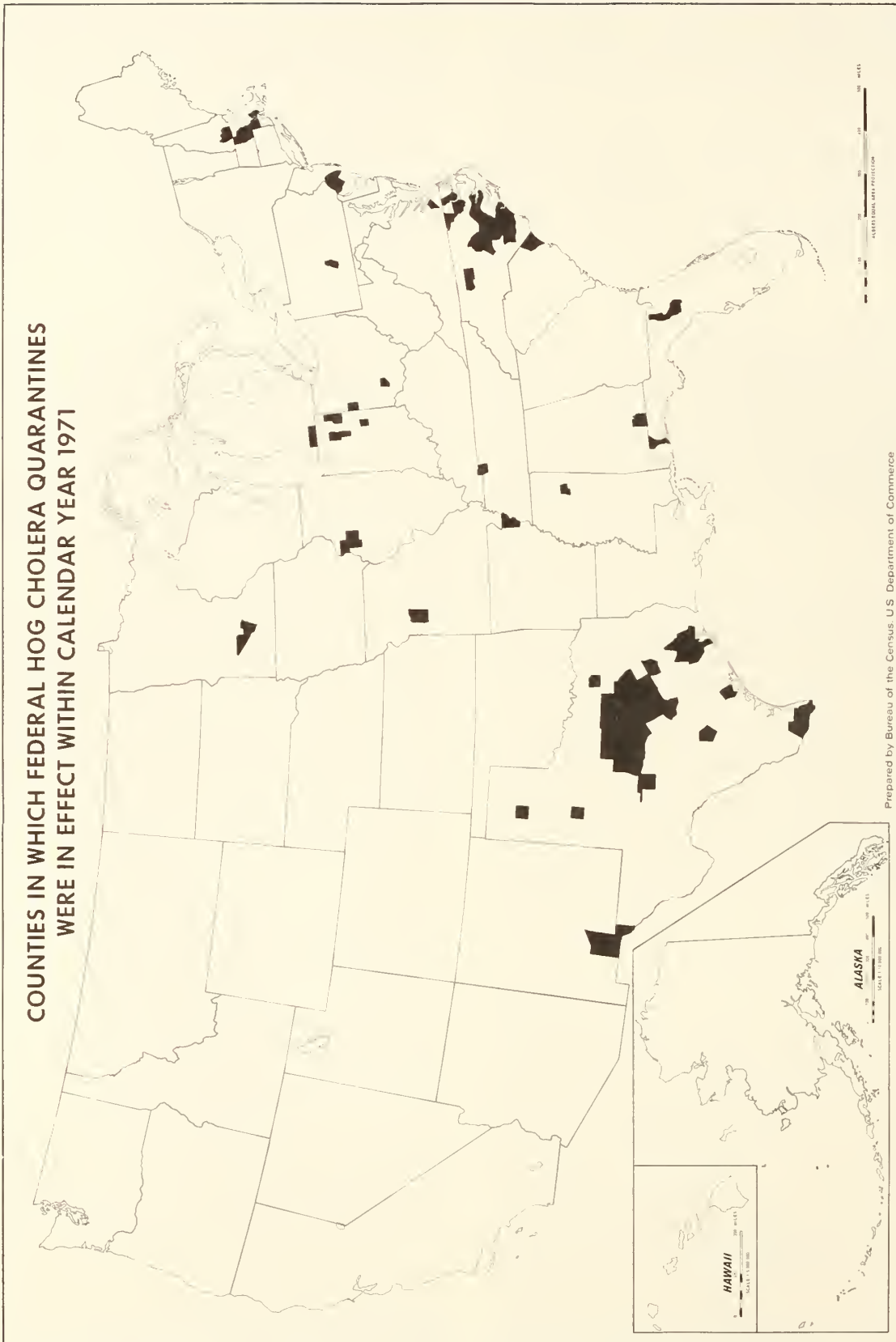
Forty-seven States said their quarantines would include the same areas as the Federal quarantines; however, several indicated that they favored larger areas. In 31 States, animal health officials promptly quarantine individual premises within the affected area.

Quarantines are normally held for 30 days after destruction of diseased and exposed swine and subsequent cleaning and disinfection of premises. Thirteen States said they normally hold quarantines for a longer period, or they would readily do so if circumstances so indicated. For example, Vermont indicated quarantines for 6 - 12 months' duration, while Rhode Island and New Mexico indicated 90-day quarantines as the minimum.

The great majority of the States said they would survey quarantined areas at least once a week, and in many cases more often. Slaughter swine within a quarantine area are inspected before shipment in all States, and in 40 States a system of identification is in effect to trace ownership back to the farm of origin. Federal or State veterinarians make the necessary inspection in 14 States, while the others also permit livestock inspectors and/or accredited veterinarians to do this work. North Carolina also permits slaughter-swine inspections to be made by county agents and agricultural teachers.

Many States protect their swine herds against infection by requiring isolation or quarantine of newly purchased feeder or breeder stock at the farm of destination. In 19 States this is required on intrastate shipments, with the normal quarantine period set at 30 days; however, Hawaii, Mississippi and Rhode Island require longer quarantine of swine purchased out-of-State, although Illinois, Montana and Pennsylvania apply this rule only to shipments from States that have not reached Phase IV or "free" States. Hawaii, Kansas, and Missouri hold purchased feeder swine on the farm of destination until slaughter.

**COUNTIES IN WHICH FEDERAL HOG CHOLERA QUARANTINES
WERE IN EFFECT WITHIN CALENDAR YEAR 1971**



Prepared by Bureau of the Census, U.S. Department of Commerce

AD 404 5

Markets

Nationwide, 1,375 markets in 38 States are approved for interstate movements of swine under the Code of Federal Regulations. Of these 560 are limited to slaughter swine only, while the others also handle feeder and breeder swine. Federal regulations were strengthened in 1970 to require separation of slaughter swine from feeder-breeder stock at approved markets and other practices were adopted to reduce the chance of hog cholera spread through market channels. These practices include veterinary inspection of swine, identification to farm of origin, hard surfaced pens and alleys, time limits for holding swine after sales, regular cleaning and disinfection, and records of all transactions. Some regulations are required only when the markets handle swine from States that have not reached Phase IV or "free" status; however, many States require these practices regardless of other conditions.

Many markets throughout the United States fall into the "nonapproved" category; that is, they are not approved for interstate swine movement and handle intrastate sales only. Hawaii, New Hampshire, Rhode Island, Vermont, and Puerto Rico have no swine markets.

Well-regulated markets prevent the spread of hog cholera and other swine diseases as well. The year-end survey revealed that all States license their markets except Arizona, Arkansas, Massachusetts, New Jersey, and Virginia. Twenty-eight States also license livestock dealers and 29 require records of all transactions.

Feeder and breeder swine must leave markets within 48 hours of the sale in 35 States, while a similar 72-hour time limit is placed on slaughter swine in 36 States.

Cull pigs, which are often viewed as high risks for undetected hog cholera, are permitted to enter markets in 37 States; however, 30 States provide isolation facilities, which are disinfected after use.

In 19 States, markets which handle slaughter swine are also used for feeder and breeder sales. Individual identification of feeder and breeder swine to farm of origin is required in 34 States, and in 32 States this identification must be maintained to the farm of destination. Twenty-two States require feeder and breeder swine to have been on the same premises for 30 days before moving to any sale.

Surveillance

Programs to prevent and eradicate hog cholera must always be backed up by a system of surveillance that determines whether or not the disease is present in the swine population. Such a system provides a sound basis for declaring an area free of hog cholera and detects any introduction of the disease at the earliest possible time.

Swine disease reporting and diagnostic activities, together with marketing regulations, constitute the foundation of a surveillance system; however, as hog cholera is eradicated, the regulations requiring many of these "surveillance" activities may be discontinued. Successful eradication could conceivably lead to the loss of an effective surveillance system against introduction of hog cholera and other highly contagious swine diseases. Dr. G. H. Wise, Assistant to the Deputy Administrator, ARS, presented a paper to the National Hog Cholera Committee of Livestock Conservation, Inc., meeting on May 4, 1971, at Waterloo, Iowa, suggesting the criteria for determining nationwide eradication and raising the question of what surveillance would be necessary to know whether or not the criteria had been met.

As a result of the discussions that followed, an Ad Hoc Committee on Hog Cholera Surveillance was formed and met September 8 and 9 at the Burlington Hotel in Washington, D.C. About 35 State, Federal, and swine industry representatives attended.

The committee recommended measures to maintain surveillance, especially during the final

phases of eradication, and to protect the United States against reintroduction of hog cholera. Recommendations fell into three major areas: disease reporting, monitoring, and regulations. They called for continued high-level reporting of all swine diseases resembling hog cholera; appointment of a trained veterinary official in each State to promote such reporting through contacts with the industry, extension, the veterinary profession, and others; screening of swine specimens for hog cholera at diagnostic laboratories, including specimens taken by meat inspectors; epidemiological and seriological surveys of high-risk swine populations; strengthened veterinary inspection at markets and on farms; swine identification systems; restriction of imports from nations with hog cholera; and a review of marketing standards to develop acceptable regulations for general swine health.

Voluntary Isolation Plan

Increased concern for swine health in general has been one of the benefits of the Cooperative State-Federal Hog Cholera Eradication Program. Success in the hog cholera program to date has demonstrated the applicability of many measures to other swine health problems.

Interest in swine health programs manifested itself this year in the development of a voluntary isolation plan for swine herd health. This plan was recommended by the Secretary's National Hog Cholera Eradication Advisory Committee and the U.S. Animal Health Association, and was approved August 25, 1971, by the U.S. Department of Agriculture.

The Voluntary Isolation Plan, or "VIP", authorizes the U.S. Department of Agriculture

and the States to recognize producers who set up a special isolation facility for new herd additions and agree to maintain these additions under quarantine for 30 days under exceptionally high sanitation standards. The main herd must be maintained independently of the isolated unit.

The major benefit of the plan is the insurance against spreading any swine disease from purchased herd additions to the rest of the operation. A disease that appears in the isolated unit would be contained and would require treatment on a much smaller scale. In the case of hog cholera, it might be necessary only to depopulate the unit affected.

Additional benefits of the plan include greater confidence that buyers and dealers might have in the health of swine produced from VIP premises, which would be authorized to advertise their status.

To qualify as a VIP operation, producers must submit an application to the State or Federal animal health officials in their State. These officials will act on the application through the State Hog Cholera Committee or its equivalent, which will serve as a review committee. A team appointed by the Committee, including at least one State or Federal animal health official, will inspect the producer's premises and review his plan. If all conditions are met, the cooperating State and Federal officials will designate the farm as VIP-qualified. Lists of VIP-herds will be maintained in each State. Details of the Voluntary Isolation Plan have been published in a special USDA leaflet, "Voluntary Isolation Plan," (APHIS 91-1) which is available from the Veterinarian-in-Charge, APHIS, in each State.

INDEMNITIES

During 1970, changes in the Federal-State sharing of hog cholera indemnity costs were proposed by three national hog cholera eradication committees. A 90-10 Federal-State indemnity sharing was proposed by the Committee on

Nationwide Eradication of Hog Cholera, U.S. Animal Health Association; and by the National Hog Cholera Committee, Livestock Conservation, Inc. The Secretary of Agriculture's National Hog Cholera Eradication Advisory

Committee proposed a sliding scale for States in Phase IV and in hog cholera-free status. All States were asked to comment on these proposals, and the great majority favored one or the other of the increased indemnity share proposals.

On August 14, the U.S. Department of Agriculture authorized an increased Federal share in the payment of hog cholera indemnities within Phase IV and hog cholera-free States. The new plan provides for a 90-10 Federal-State

indemnity ratio in "free" States, and a 75-25 share in Phase IV States. States in Phase III continue to receive Federal indemnity shares on a 50-50 basis.

The increased Federal sharing for an individual State is contingent on that State having a system of swine identification that can trace ownership of feeder and breeder swine through market channels back to the farm of origin. The higher shares are paid on primary hog cholera outbreaks without spread.

Table 1.—Infected and exposed herds disposed of under indemnity procedures during 1971¹

State	Herds	Swine	Average herd size	State and Federal indemnity	Indemnity per herd	Indemnity per pig
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
Alabama	27	208	8	4,587	170	22.05
Arizona	2	42	21	1,291	646	30.73
Arkansas	2	156	78	3,716	1,858	23.82
Florida	4	2,394	599	82,639	20,660	34.51
Illinois	4	2,646	662	96,769	24,192	36.57
Indiana	5	1,010	202	23,531	4,706	23.29
Louisiana	1	12	12	132	132	11.00
Massachusetts	3	830	277	21,638	7,213	26.06
Michigan	1	2,573		80,239	80,239	31.18
Minnesota	6	1,832	305	70,130	11,688	38.28
Mississippi	1	157		4,113	4,113	26.19
Missouri	4	2,814	704	44,784	11,196	15.91
New Hampshire	1	404	404	9,531	9,531	23.59
New Jersey	1	511	511	30,222	30,222	59.14
New Mexico	1	87	87	- 0 -	- 0 -	- 0 -
North Carolina	251	16,817	67	455,125	1,814	27.06
Ohio	9	2,340	260	66,316	7,368	28.34
Oklahoma	1	10	10	330	330	33.00
Rhode Island	2	485	243	6,887	3,444	14.20
South Carolina	12	295	25	7,208	601	24.43
Tennessee	2	1,741	871	42,103	21,052	24.18
Texas	220	9,028	41	225,275	1,024	24.95
Virginia	9	836	93	22,751	2,528	27.21
Puerto Rico	8	629	79	13,707	1,714	21.79
All States	577	47,857	83	1,313,024	2,275	27.43

¹ Data not correlated with calendar year outbreak figures: (1) includes both confirmed outbreaks and exposed herds; (2) includes some herds disposed of in late 1970 on which indemnity was paid in 1971, but excludes some herds disposed of in late 1971 on which indemnity claims are not yet processed.

VACCINES AND SERUM

Interstate shipment of modified-live-virus vaccines for hog cholera was prohibited on July 1, 1969. At the time 39 States had halted the use of hog cholera vaccines. Since then all other States have followed suite. Vaccination against hog cholera is now prohibited nationwide under both State and Federal regulations.

These actions all but eliminated vaccination as a cause of hog cholera. Moreover, they were essential before eradication could be achieved. Only three cases in 1971 were attributable to vaccination, and in every case they involved illegal use of vaccines.

One more step was necessary to protect the Nation's swine industry against infection from vaccinated hogs or their offspring (pregnant sow syndrome). All sources of vaccines and virus had to be eliminated; the swine industry needed protection not only from vaccines, which can cause the disease in some cases, but from the temptation to use them.

Major steps were taken in 1971 to remove all virus sources that could reinfect the Nation's swine. During the year all biologics manufacturers voluntarily surrendered their licenses to produce hog cholera vaccines, and all remaining stocks were being held for export. In late summer and fall, State and Federal officials conducted a search in every State to locate, and—where possible—destroy all stocks of vaccines and virus still held by individuals and institutions. By late October, officials in 34 States had found 601,488 doses of vaccine and virus, including materials for diagnostic pur-

poses, vaccine, frozen tissue culture, infected tissue, and virulent virus. They were able to destroy 72,316 doses; the balance was primarily stocks held by biological houses. In nine of these States, all materials found were destroyed. Sixteen States reported finding no unauthorized vaccines and virus.

In spite of the success of finding vaccines and virus, officials realize that the search was by no means the final step. They are still concerned about individuals who may have a few vials put away in the back of a refrigerator. In their search, they were not able to contact all the swine owners who might retain virus or vaccine. The improper disposal of these vaccines, as well as their illegal use, could easily start a new round of infections; thus, a continuing campaign was started to urge all persons concerned to turn in these vaccines to Federal or State animal health officials or to destroy them by one of the approved methods—autoclaving, incineration, or high-pressure boiling.

Anti-hog cholera serums have not been prohibited, although their continued manufacture is no longer possible in the absence of hog cholera vaccines and virus. While not necessarily a direct cause of hog cholera, these serum do create problems in combating the disease since they can mask the symptoms and thus permit infected hogs to move through markets. Officials anticipate the continued use of serum in a few isolated areas, where dealers, swine owners, and market operators have large stocks on hand; however, the problem will soon dissipate as the stocks are exhausted.

GARBAGE FEEDING

In the year-end survey, seven States reported garbage feeding to be prohibited: Alabama, Illinois, Iowa, Louisiana, South Dakota, Virginia and Wisconsin. North Dakota had no garbage-fed swine herds, and New York and South Carolina have enacted legislation to prohibit garbage-fed

swine production after specified dates in the future. Nine States are preparing legislation to prohibit this type of operation. Illinois and Virginia prohibit the feeding of table scraps to swine as well as commercially collected food wastes.

INFORMATION SUPPORT

Since the program's beginning, hog cholera eradication has relied on public information activities to encourage the cooperation and support of the swine industry. Swine producers, market operators, veterinarians, and others are encouraged to report suspected hog cholera cases and to observe quarantines, regulations, and animal health measures that protect swine against infection.

National coverage of the hog cholera eradication program was provided by the Information Division of the Agricultural Research Service (ARS) until a reorganization on October 31 established the Animal and Plant Health Service. The Information Division of the new agency continued the functions formerly performed under ARS. Throughout the year, valuable cooperative support was provided by the Information Office of Livestock Conservation, Inc.

State information activities are channeled through a hog cholera information officer appointed in each State, and materials are disseminated by the respective State Extension Services and the information offices of State Departments of Agriculture. The agricultural press, pork producers councils, veterinary medical associations, swine breed associations, and other groups have been helpful in informing the public of program development.

Information support is needed particularly when confirmed cases are reported and quarantines are imposed. Forty-three States notify the public regularly through newspaper and radio publicity. Forty-six States and Puerto Rico use Extension Service Information channels as a means of notification, and 40 regularly contact their veterinary medical associations. Most

States also inform farm groups and associations, and 43 have established communications with adjacent States to inform them of outbreaks and quarantines.

In 1971, the Information Division of ARS/APHS issued 31 national press releases, and distributed six issues of *Hog Cholera Highlights*. In addition, periodic radio and TV tapes were produced and distributed to the broadcast media. A new hog cholera exhibit was shown at the American Pork Congress in Des Moines, Iowa, which was attended by 5,000 delegates and guests.

The Dismal Swamp operation received special attention during the year. Two articles in the *National Hog Farmer* and one in the *FARM JOURNAL* were reprinted and distributed to cooperators. A special photo feature, "Operation Hog Cholera", appeared in the June issue later in the summer.

USDA information material for general use included an envelope stuffer and a pamphlet entitled, "Sick Pigs?", which told by cartoons and brief text the importance of reporting suspected cholera cases and observing all measures that prevent infection. The pamphlet was subsequently translated into Spanish ("Cerdos Enfermos?") for general use in the Southwest.

Livestock Conservation, Inc., backed up USDA efforts with the publication of six *Hog Cholera Eradication Progress Reports*, issued at timely intervals throughout the year. These involved summaries of the program status, recent outbreaks, recommendations of the Hog Cholera Eradication Committees of USDA, LCI, and USAHA, and news from various States.

HOG CHOLERA COMMITTEES

Federal and State hog cholera eradication efforts depend heavily on the cooperation of the swine industry. For this reason, officials rely on the recommendations of three national hog cholera eradication committees, which reflect

the sentiment of industry leaders on new proposals and the solutions to difficult problems. These committees are: The Secretary of Agriculture's National Hog Cholera Eradication Advisory Committee, authorized by the legislation

that established the Cooperative State-Federal Eradication Program; the National Hog Cholera Committee of Livestock Conservation, Inc. (LCI), representing the swine industry; and the Committee on the Nationwide Eradication of Hog Cholera, sponsored by the U.S. Animal Health Association (USAHA). In addition and as a direct result of recommendations by these committees, a special Ad Hoc Committee on Hog Cholera Surveillance was called, meeting in Washington, D.C., on September 8 and 9. Its recommendations are reported separately on page 11.

Secretary's Advisory Committee

The Secretary's National Hog Cholera Eradication Advisory Committee met twice in 1971—at Waterloo, Iowa, on May 4 in conjunction with the LCI Annual Meeting, and in Oklahoma City, Okla., on October 26 in conjunction with the USAHA Convention.

At the Waterloo meeting, the Advisory Committee urged USDA to explore opportunities for expanding overseas markets for American pork when the United States becomes hog cholera-free. The Committee also endorsed USDA steps to increase Federal indemnity sharing in Phase IV and hog cholera-free States. It reaffirmed opposition to the use of vaccines and asked that producers and veterinarians destroy any vaccines or virus stocks in their possession by one of the safe methods—incinerating, boiling, pressure cooking, or autoclaving. Stronger regulatory measures and self-policing within the industry were urged to insure proper cooking of food wastes in garbage-fed swine operations. USDA was commended for continuing its efforts to develop a voluntary isolation plan for swine herd health.

At the Oklahoma City meeting, the Advisory Committee again emphasized its position that hog cholera vaccines should be turned over to animal health officials for destruction, or destroyed by the owner through one of the safe methods. It also cautioned producers against complacency during the final stages of eradication, when

incidence of the disease declines drastically. Continued efforts to increase pork exports after eradication were urged.

LCI National Hog Cholera Committee

The LCI National Hog Cholera Committee also met twice during the year on the same occasions as the Advisory Committee. At the first meeting, it adopted six major recommendations:

1. That an ad hoc committee be appointed to investigate measures needed for surveillance after eradication;
2. That USDA be urged to start a program to locate virus stocks in institutions around the country;
3. That procedures be set up for the destruction of vaccines and virus stocks held by veterinarians, pork producers, and others;
4. That USDA set up a repository for representative samples of hog cholera virus;
5. That pork producers be warned of the dangers to the industry and the lack of benefits to the producers from the use of bovine viral diarrhea (BVD) vaccines in an attempt to immunize hogs against hog cholera;
6. That the sub-committee report on uniform veterinary inspection certificates be approved and efforts continue toward developing a draft proposal.

In the fall, the Committee recommended that LCI call a conference on maintaining swine health regulations with a view toward the industry's needs after eradication. It also asked LCI members to support legislation for expanded cooperation with other nations to limit pork imports except under conditions that would prevent the introduction of hog cholera. The recommendations of the Ad Hoc Committee (see page 11) were endorsed, and efforts to locate and destroy vaccines and virus stocks

were again supported. The Committee continued its interest in a uniform veterinary inspection certificate.

USAHA Committee

The above recommendations were also reflected in the report of the USAHA Committee on the Nationwide Eradication of Hog Cholera, with special emphasis on the Ad Hoc Committee

for Hog Cholera Surveillance. The USAHA committee met in Oklahoma City, October 26, in connection with the Association's convention. Its major concern over the current eradication efforts was with respect to the danger of complacency as hog cholera incidence declines. The Committee also recommended that the United States be considered officially hog cholera-free one year after the last case has occurred.

HOG CHOLERA ERADICATION PROGRAM

State	Date entered program phase					Date live vaccine stopped	Confirmed cases during calendar year								
	I	II	III	IV	FREE		1964	1965	1966	1967	1968	1969	1970	1971	
Alabama	12-62	10-64	3-69	3-70	12-71	4-68	60	25	3	25	13	4	14	--	
Alaska	3-64	--	--	1-65	2-66	2-65	--	--	--	--	--	--	--	--	
Arizona	4-63	2-65	3-66*	--	5-71	8-68	7	--	--	4	1	1	1	--	
Arkansas	7-63	12-66	7-67	12-70	1-67	1-68	110	2	3	7	3	93	6	1	
California	3-63	1-64	1-65	1-70	10-70	7-69	7	4	--	1	1	2	--	--	
Colorado	11-63	8-65	1-66	--	10-71		3	--	--	--	--	--	--	--	
Connecticut	2-63	12-63	1-65	7-67	11-71		--	--	--	--	--	1	2	--	
Delaware	--	1-63	--	9-67	7-71		--	1	--	--	--	6	1	--	
Florida	1-63	7-63	9-63	2-67	9-68*	4-67	--	2	--	1	67	25	--	4	
Georgia	1-63	8-63	8-64	12-69	4-71	2-67	175	286	26	33	200	30	7	--	
Hawaii	5-64	4-67	8-69	3-71	10-71		1	--	--	1	--	--	--	--	
Idaho	3-63	6-63	1-65	9-65	2-67	2-66	--	--	--	--	--	--	--	--	
Illinois	1-63	2-64	7-66	12-70		7-69	90	60	46	33	16	56	33	1	
Indiana	--	5-64	1-68	10-71		10-69	88	33	23	26	8	32	11	3	
Iowa	1-63	6-63	7-67	9-70	3-71	7-69	185	65	57	59	21	22	1	--	
Kansas	2-63	8-63	4-69	10-70	10-71	7-69	22	12	12	26	11	8	4	--	
Kentucky	1-63	11-64	10-66	--	12-70	1-68	20	25	8	9	23	19	--	--	
Louisiana	--	11-63	7-66	2-71		1-68	9	3	9	12	4	46	7	1	
Maine	4-63	3-64			6-71	7-68	1	1	--	--	--	--	--	--	
Maryland	1-63	10-64	10-65	7-67	10-71	7-68	8	2	5	2	--	78	11	--	
Massachusetts	2-64	6-64	8-68	9-71			4	1	--	1	1	12	18	3	
Michigan	8-63	4-64	--	12-65	4-67*	4-66	11	3	--	3	1	4	--	1	
Minnesota	--	3-64	7-68	7-69		6-69	31	18	38	46	22	9	4	3	
Mississippi	1-63	12-65	1-68*	11-70		1-68	11	30	12	13	25	51	60	1	
Missouri	--	1-64	7-66	6-71		3-68	114	36	37	69	47	218	64	1	
Montana	--	2-63	--	4-64	2-66	2-65	1	--	--	--	--	--	--	--	
Nebraska	1-63	8-64	10-67	4-71	10-71	1-67	31	35	44	84	30	25	2	--	
Nevada	--	--	3-63	9-63	9-65	11-64	--	--	--	--	--	1	--	--	
New Hampshire	12-62	4-64	1-70	5-71			--	--	--	4	--	--	3	--	
New Jersey	6-63	9-64	8-66*	10-70			4	3	3	13	3	1	5	2	
New Mexico	1-65	10-65	6-69	2-70			1	--	--	1	--	--	1	1	
New York	6-63	2-65	--	12-70	12-71	6-67	3	3	2	1	3	1	--	--	
North Carolina	3-63	12-64	1-67	9-71		4-69	76	90	77	160	71	208	140	24	
North Dakota	9-64	12-64	12-65	8-67	9-68	9-67	--	--	7	14	1	--	--	--	
Ohio	2-63	2-65	1-68	7-71		11-68	32	18	7	19	26	29	34	4	
Oklahoma	12-64	5-66	11-67	1-69		11-67	1	--	17	14	2	48	10	1	
Oregon	--	3-63	--	12-64	8-67	8-66	--	--	--	--	6	--	--	--	
Pennsylvania	6-64	6-65	1-68	12-70	7-71*	1-68	2	8	3	3	3	4	3	1	
Rhode Island	3-64	5-64	7-67	5-71			2	--	--	--	--	4	5	1	
South Carolina	3-63	2-64	7-68	3-71		1-69	39	45	11	38	29	110	15	--	
South Dakota	7-63	4-64	7-68	--	7-70	7-67	35	12	21	38	3	7	--	--	
Tennessee	1-63	9-65	1-68	10-69		7-67	12	20	20	34	52	24	3	1	
Texas	10-65	10-67	8-69	12-71*			1	8	10	20	61	213	87	55	
Utah	4-63	--	--	11-64	2-66*	11-64	1	--	--	4	1	--	--	--	
Vermont	--	--	--	9-63	9-64*	9-63	--	--	--	2	1	--	--	--	
Virginia	1-63	5-65	8-66	2-71		7-68	6	18	12	12	44	64	116	3	
Washington	12-62	1-64	--	7-64	8-67	8-66	--	--	--	--	2	--	--	--	
West Virginia	4-64	5-65	10-68	--	10-69	7-68	2	--	--	--	--	--	1	--	
Wisconsin	6-63	8-63	--	2-66	2-69	1-68	4	--	4	2	--	--	--	--	
Wyoming	12-62	7-63	7-63	10-63	9-68	7-67	--	--	2	1	--	--	--	--	
Puerto Rico	1-63	12-65	12-67	3-71		3-69	6	12	15	19	20	25	10	6	
Confirmed cases							1,117	881	534	854	822	1,481	679	718	
Suspicious cases							1,664	1,701	1,499	3,143	4,553	6,484	5,716	3,878	

*Ariz. to Ph II 3-70; Fla. to Ph IV 10-68, Free 4-70 to Ph IV 1-71, Free 2-72; Mich. to Ph IV 8-69, Free 2-70 to Ph IV 5-71 to Free 2-72; Miss. to Ph II 7-68, to Ph III 7-69; N.J. to Ph II 6-68, to Ph III 2-69; Pa. to Ph IV 10-71 to Free 2-72; Utah to Ph IV 11-67, Free 11-68; Texas to Ph IV 12-71 to Ph IV 12-71; Vt. to Ph IV 2-68, Free 2-69.

QUARTERLY REPORT OF HOG CHOLERA OUTBREAKS					Quarter January 1 - March 31, 1971			
State	Program Phase	Current Fiscal Year			Program Phase	Previous Fiscal Year		
		No. Confirmed		No. Suspicious Reported (Cumulative)		No. Confirmed		No. Suspicious Reported (Cumulative)
		This Quarter	Cumulative Total		Same Quarter	Cumulative Total Same Quarter		
Alabama	IV	—	10	139	IV	—	—	187
Alaska	FREE	—	—	—	FREE	—	—	—
Arizona	III	—	—	—	II	1	2	14
Arkansas	IV	1	2	77	III	3	42	99
California	FREE	—	—	12	IV	—	1	10
Colorado	III	—	—	3	III	—	—	6
Connecticut	IV	—	1	3	IV	1	1	5
Delaware	IV	—	—	18	IV	—	6	17
Florida	FREE	4	4	53	IV	—	2	48
Georgia	IV	—	—	12	IV	6	15	30
Hawaii	IV	—	—	1	III	—	—	—
Idaho	FREE	—	—	5	FREE	—	—	—
Illinois	IV	—	4	64	III	21	56	183
Indiana	III	1	4	151	III	—	15	147
Iowa	FREE	—	—	62	III	1	19	139
Kansas	IV	—	1	30	III	3	4	16
Kentucky	FREE	—	—	35	III	—	4	39
Louisiana	IV	1	7	106	III	—	39	304
Maine	II	—	—	—	II	—	—	—
Maryland	IV	—	7	37	IV	4	78	315
Massachusetts	III	1	3	7	III	13	25	34
Michigan	FREE	—	—	1	FREE	—	4	24
Minnesota	IV	3	4	49	IV	1	2	49
Mississippi	IV	—	7	106	III	12	48	120
Missouri	III	1	56	276	III	5	153	425
Montana	FREE	—	—	2	FREE	—	—	—
Nebraska	III	—	2	10	III	—	20	41
Nevada	FREE	—	—	1	FREE	—	—	2
N. Hampshire	III	—	1	3	III	2	2	4
N. Jersey	IV	—	1	4	III	3	4	10
N. Mexico	IV	1	1	2	IV	1	1	2
New York	IV	—	—	3	II	0	1	2
N. Carolina	III	12	114	1,349	III	16	173	720
N. Dakota	FREE	—	—	6	FREE	—	—	—
Ohio	III	3	33	290	III	1	12	59
Oklahoma	IV	—	5	91	IV	5	13	121
Oregon	FREE	—	—	1	FREE	—	—	—
Pennsylvania	IV	—	2	10	III	—	3	8
Rhode Island	III	—	1	3	III	4	7	10
S. Carolina	IV	—	6	414	III	7	45	403
S. Dakota	FREE	—	—	7	III	—	1	12
Tennessee	IV	1	3	39	IV	1	6	150
Texas	III	23	65	449	III	32	163	481
Utah	FREE	—	—	5	FREE	—	—	2
Vermont	FREE	—	—	4	FREE	—	—	3
Virginia	IV	3	26	464	III	24	63	133
Washington	FREE	—	—	1	FREE	—	—	—
W. Virginia	FREE	—	—	15	FREE	—	—	11
Wisconsin	FREE	—	—	5	FREE	—	—	57
Wyoming	FREE	—	—	—	FREE	—	—	—
Puerto Rico	IV	—	3	73	III	7	14	90
TOTALS		55	373	4,498		174	1,044	4,534

Nationwide Epidemiological Investigations Completed for Current Quarter and Fiscal Year				Probable Means of Spread (This Quarter)			
		Additions		Vaccination			
		This Quarter	Cumulative	Other State	Same State	Proper Use	Improper Use
No. suspicious outbreaks		1,239	4,526	2	14	—	—
No. confirmed outbreaks		41	339				
Laboratory aid used to determine	Hog cholera	54	372	Garbage Feeding		Area Spread	None Established
	Not hog cholera	951	4,320	Licensed	Household		
				4	—	9	12

QUARTERLY REPORT OF HOG CHOLERA OUTBREAKS					Quarter April 1 - June 30, 1971			
State	Program Phase	Current Fiscal Year			Program Phase	Previous Fiscal Year		
		No. Confirmed		No. Suspicious Reported (Cumulative)		No. Confirmed		No. Suspicious Reported (Cumulative)
		This Quarter	Cumulative Total			Same Quarter	Cumulative Total Same Quarter	
Alabama	IV	0	10	143	IV	4	4	283
Alaska	FREE	0	0	0	FREE	0	0	0
Arizona	FREE	0	0	2	II	0	2	15
Arkansas	IV	0	2	83	III	2	44	134
California	FREE	0	0	25	IV	0	1	21
Colorado	III	0	0	6	III	0	0	88
Connecticut	IV	0	1	3	IV	0	1	8
Delaware	IV	0	0	20	IV	1	7	27
Florida	FREE	0	4	57	FREE	0	2	65
Georgia	FREE	0	0	15	IV	1	16	31
Hawaii	IV	0	0	1	III	0	0	000
Idaho	FREE	0	0	5	FREE	0	0	0
Illinois	IV	1	5	89	III	8	64	243
Indiana	III	2	6	237	III	8	23	212
Iowa	FREE	0	0	81	III	0	19	166
Kansas	IV	0	1	34	III	0	4	22
Kentucky	FREE	0	0	46	III	0	4	96
Louisiana	IV	0	7	125	III	1	40	337
Maine	FREE	0	0	0	II	0	0	0
Maryland	IV	0	7	42	IV	0	78	341
Massachusetts	III	2	5	8	III	3	28	40
Michigan	FREE	1	1	8	FREE	0	4	24
Minnesota	IV	0	4	60	IV	2	4	95
Mississippi	IV	0	7	124	III	41	89	217
Missouri	IV	0	56	308	III	4	157	478
Montana	FREE	0	0	3	FREE	0	0	0
Nebraska	IV	0	2	14	III	0	20	41
Nevada	FREE	0	0	1	FREE	0	0	3
N. Hampshire	IV	0	1	3	III	0	2	4
N. Jersey	IV	1	2	7	III	1	5	11
N. Mexico	IV	0	1	4	IV	0	1	2
New York	IV	0	0	5	II	0	1	2
N. Carolina	IV	12	126	1,709	III	22	195	883
N. Dakota	FREE	0	0	9	FREE	0	0	4
Ohio	III	1	34	312	III	3	15	75
Oklahoma	IV	1	6	131	IV	0	13	147
Oregon	FREE	0	0	1	FREE	0	0	0
Pennsylvania	IV	0	2	10	III	1	4	10
Rhode Island	IV	0	1	3	III	0	8	10
S. Carolina	IV	0	6	523	III	2	47	553
S. Dakota	FREE	0	0	12	FREE	0	1	18
Tennessee	IV	0	3	43	IV	0	6	169
Texas	III	21	86	1,071	III	13	175	553
Utah	FREE	0	0	7	FREE	0	0	3
Vermont	FREE	0	0	4	FREE	0	0	3
Virginia	IV	0	26	496	III	69	132	282
Washington	FREE	0	0	2	FREE	0	0	3
W. Virginia	FREE	0	0	19	FREE	1	1	17
Wisconsin	FREE	0	0	5	FREE	0	0	93
Wyoming	FREE	0	0	0	FREE	0	0	0
Puerto Rico	IV	3	6	99	III	0	14	108
TOTALS		45	418	6,015		187	1,231	5,857

Nationwide Epidemiological Investigations Completed For Current Quarter and Fiscal Year				Probable Means of Spread (This Quarter)			
		This Quarter	Cumulative	Additions		Vaccination	
				Other State	Same State	Proper Use	Improper Use
No. suspicious outbreaks		1,511	6,078	1	15	1	
No. confirmed outbreaks		69	408				
Laboratory aid used to determine	Hog cholera	44	416	Garbage Feeding		Area Spread	None Established
	Not hog cholera	1,034	5,354	Licensed	Household		
				5	5	21	21

QUARTERLY REPORT OF HOG CHOLERA OUTBREAKS					Quarter October 1 - December 31, 1971			
State	Current Fiscal Year				Previous Fiscal Year			
	Program Phase	No. Confirmed		No. Suspicious Reported (Cumulative)	Program Phase	No. Confirmed		No. Suspicious Reported (Cumulative)
		This Quarter	Cumulative Total			Same Quarter	Cumulative Total Same Quarter	
Alabama	FREE			5	IV	4	10	104
Alaska	FREE				FREE			
Arizona	FREE			1	II			
Arkansas	IV			19	IV		1	47
California	FREE			29	FREE			
Colorado	FREE			4	III			1
Connecticut	FREE			2	IV	1	1	2
Delaware	FREE			3	IV			14
Florida	FREE			4	FREE			17
Georgia	FREE			7	IV			9
Hawaii	FREE			3	III			
Idaho	FREE			2	FREE			3
Illinois	IV			38	IV		4	53
Indiana	IV			55	III	3	3	79
Iowa	FREE			35	IV			51
Kansas	FREE			6	IV		1	24
Kentucky	FREE			8	FREE			34
Louisiana	IV			29	III		6	81
Maine	FREE				II			
Maryland	FREE			33	IV		7	37
Massachusetts	IV			1	III		2	5
Michigan	FREE			14	FREE			
Minnesota	IV			8	IV	1	1	31
Mississippi	IV		1	20	III	2	7	89
Missouri	IV			22	III	10	55	244
Montana	FREE				FREE			
Nebraska	FREE			5	III	1	2	9
Nevada	FREE				FREE			1
N. Hampshire	IV			1	III	1	1	3
N. Jersey	IV	1	1	2	IV		1	3
N. Mexico	IV			1	IV			
New York	FREE			3	IV			1
N. Carolina	IV			258	III	15	102	998
N. Dakota	FREE			4	FREE			4
Ohio	IV			20	III	22	30	262
Oklahoma	IV			32	IV		5	64
Oregon	FREE			3	FREE			
Pennsylvania	FREE	1	1	2	IV		2	10
Rhode Island	IV		1	2	III	1	1	3
S. Carolina	IV			93	III	5	6	308
S. Dakota	FREE			1	FREE			7
Tennessee	IV			6	IV	1	2	31
Texas	III	9	11	238	III	25	42	186
Utah	FREE			4	FREE			4
Vermont	FREE				FREE			4
Virginia	IV			40	III	2	23	367
Washington	FREE			1	FREE			
W. Virginia	FREE			2	FREE			11
Wisconsin	FREE				FREE			5
Wyoming	FREE				FREE			
Puerto Rico	IV		3	59	III	1	3	53
TOTALS		11	18	1,122		95	318	3,259

Nationwide Epidemiological Investigations Completed For Current Quarter and Fiscal Year				Probable Means of Spread (This Quarter)			
		This Quarter	Cumulative	Additions		Vaccination	
				Other State	Same State	Proper Use	Improper Use
No. suspicious outbreaks		493	1,159				
No. confirmed outbreaks		11	18		10		1
Laboratory aid used to determine	Hog cholera	11	18	Garbage Feeding		Area Spread	None Established
	Not hog cholera	419	969	Licensed	Household		

QUARTERLY REPORT OF HOG CHOLERA OUTBREAKS					Quarter July 1 - September 30, 1971			
State	Current Fiscal Year				Previous Fiscal Year			
	Program Phase	No. Confirmed		No. Suspicious Reported (Cumulative)	Program Phase	No. Confirmed		No. Suspicious Reported (Cumulative)
		This Quarter	Cumulative Total			Same Quarter	Cumulative Total Same Quarter	
Alabama	IV	0	0	5	IV	6	6	79
Alaska	FREE	0	0	0	FREE	0	0	0
Arizona	FREE	0	0	0	II	0	0	0
Arkansas	IV	0	0	12	III	1	1	21
California	FREE	0	0	14	FREE	0	0	0
Colorado	FREE	0	0	1	III	0	0	1
Connecticut	FREE	0	0	1	IV	0	0	1
Delaware	FREE	0	0	1	IV	0	0	11
Florida	FREE	0	0	2	FREE	0	0	14
Georgia	FREE	0	0	3	IV	0	0	3
Hawaii	FREE	0	0	0	III	0	0	0
Idaho	FREE	0	0	2	FREE	0	0	1
Illinois	IV	0	0	18	III	4	4	27
Indiana	IV	0	0	25	III	0	0	39
Iowa	FREE	0	0	21	IV	0	0	32
Kansas	FREE	0	0	2	IV	1	1	13
Kentucky	FREE	0	0	2	III	0	0	32
Louisiana	IV	0	0	19	III	6	6	55
Maine	FREE	0	0	0	II	0	0	0
Maryland	FREE	0	0	15	IV	7	7	36
Massachusetts	IV	0	0	1	III	2	2	5
Michigan	FREE	0	0	10	FREE	0	0	0
Minnesota	IV	0	0	7	IV	0	0	15
Mississippi	IV	1	1	11	III	5	5	71
Missouri	IV	0	0	15	III	45	45	163
Montana	FREE	0	0	0	FREE	0	0	0
Nebraska	FREE	0	0	2	III	1	1	5
Nevada	FREE	0	0	0	FREE	0	0	1
N. Hampshire	IV	0	0	0	III	0	0	1
N. Jersey	IV	0	0	0	III	1	1	2
N. Mexico	IV	0	0	1	IV	0	0	0
New York	IV	0	0	2	II	0	0	1
N. Carolina	IV	0	0	158	III	87	87	401
N. Dakota	FREE	0	0	2	FREE	0	0	2
Ohio	IV	0	0	10	III	8	8	44
Oklahoma	IV	0	0	13	IV	5	5	44
Oregon	FREE	0	0	1	FREE	0	0	0
Pennsylvania	FREE	0	0	0	III	2	2	10
Rhode Island	IV	1	1	2	III	0	0	1
S. Carolina	IV	0	0	51	III	1	1	142
S. Dakota	FREE	0	0	1	FREE	0	0	7
Tennessee	IV	0	0	4	IV	1	1	17
Texas	III	4	4	129	III	17	17	64
Utah	FREE	0	0	4	FREE	0	0	2
Vermont	FREE	0	0	0	FREE	0	0	3
Virginia	IV	0	0	26	III	21	21	180
Washington	FREE	0	0	1	FREE	0	0	0
W. Virginia	FREE	0	0	1	FREE	0	0	8
Wisconsin	FREE	0	0	0	FREE	0	0	4
Wyoming	FREE	0	0	0	FREE	0	0	0
Puerto Rico	IV	3	3	38	III	2	2	32
TOTALS		9	9	633		223	223	1,590
Nationwide Epidemiological Investigations Completed For Current Quarter and Fiscal Year					Probable Means of Spread (This Quarter)			
		This Quarter		Cumulative	Additions		Vaccination	
No. suspicious outbreaks		666		666	Other State	Same State	Proper Use	Improper Use
No. confirmed outbreaks		7		7		2		1
Laboratory aid used to determine	Hog cholera	7		7	Garbage Feeding		Area Spread	None Established
	Not hog cholera	550		550	Licensed	Household		
					3			1

STATE-BY-STATE ROUND-UP

Northeast

At the end of 1971, eight of the 13 States in the region were hog cholera-free, double the number in that status a year before. The other five States were in Phase IV, four of which had moved up from Phase III during the year. With 9.5 percent of the Nation's hogs, the region accounted for 10 percent of the cases reported, compared with 13 percent of the cases in 1970. The number of cases in the region dropped from 71 in 1970 to 11 in 1971.

Maine advanced directly from Phase II to hog cholera-free status on June 1, 1971, when program funding became available to permit the State to pay indemnities. The last positive case was diagnosed in April 1965. No federally approved markets are located within the State.

New Hampshire advanced from Phase III to Phase IV in May 1971. The last case occurred December 31, 1970. No swine markets are located within the State.

Vermont has not had a positive case since January 1968. The State has no swine markets; dealers are required to be licensed and keep records of all transactions. Should an outbreak occur, the State has indicated that quarantines of 6 to 12 months might be imposed.

Massachusetts, which had been in Phase III since 1968, moved into Phase IV in September 1971. The last positive case occurred April 25, with the total incidence for the year at only 3 cases.

Rhode Island moved into Phase IV on May 6, 1971, after being in Phase III since July 1967. One case occurred in the State during the year, in July, after Phase IV was achieved; however, it was an isolated outbreak without spread to other premises. No swine markets are located in Rhode Island.

Connecticut was declared hog cholera-free on November 1, 1971, one year after the last

positive case in the State. She had been in Phase IV since July 1967.

New York became hog cholera-free on December 1, 1971, after being in Phase IV for one year. The last positive case occurred in October 1969. New York will discontinue garbage feeding when all garbage feeding permits have expired, which will be in 1980.

New Jersey remained in Phase IV throughout the year. The two cases in 1971, in April and November, were isolated and did not spread to other premises. Feeding of improperly cooked garbage to swine is believed to have been the cause.

Pennsylvania was declared hog cholera-free on July 19, 1971. One case occurred after that date, in Blair County on October 8, but this was quickly eradicated by aggressive State action and no spread occurred.

West Virginia has been "free" since October of 1969. No cases occurred during 1971.

Kentucky became hog cholera-free on December 10, 1970, and has had no cases since then. State officials report that all swine tissues submitted to the State diagnostic laboratory are routinely examined for hog cholera.

Ohio advanced to Phase IV on July 6, 1971. The State had one hog cholera case each month from January through April, but none thereafter.

Michigan was declared hog cholera-free in 1967, reverted to Phase IV in 1969, and again became "free" in February 1970. Only one case occurred during the past year, in May, and no spread was involved.

North Central Region

The North Central Region, which includes eight of the top ten hog-producing States, made outstanding progress in 1971. At the beginning

of the year, five States were hog cholera-free, four in Phase IV, and three in Phase III. At the year's end, eight States were "free" and the remaining five were all in Phase IV.

The 12 North Central States produce about three-fourths of the Nation's swine, but recorded only seven percent of the hog cholera cases that occurred in 1971. In 1970 the region had 18 percent of the cases. Total incidence dropped from 119 cases in 1970 to eight in 1971 (in only four States).

Indiana advanced to Phase IV on October 26. Three cases were reported during the year, one each in March, April, and May. Three other herds were exposed during these outbreaks. In 1970, Indiana had 11 confirmed cases.

Illinois advanced to Phase IV in December 1970 and remained in that status throughout 1971. One confirmed case occurred in June, preventing the State from achieving hog cholera-free status during the 1971 calendar year. Thirty-three cases had been reported the preceding year.

Wisconsin has been "free" since February 1969, and has not had a positive hog cholera case since June 1967.

Minnesota has been in Phase IV since July 1969, with hog cholera incidence dropping sharply each year. Nine cases were recorded in 1969, 4 in 1970, and only 3 in 1971; however, those three cases in January and March, prevented Minnesota from becoming hog cholera-free.

Iowa, the number-one hog-producing State, entered Phase IV in September 1970, and became hog cholera-free March 11, 1971, one year after recording its last case, the only one in 1970.

Missouri had its last case March 20, 1971, the only case during the year, and advanced to Phase IV in June.

Kansas entered Phase IV in October 1970 and became hog cholera-free on October 1, 1971. The State had no cases in 1971 compared with four the preceding year.

Nebraska entered Phase IV in April and was declared hog cholera-free on October 15, 1971. The State's last confirmed case was on October 11, 1970.

South Dakota has been "free" since July 1970 and has not had a confirmed case since 1969.

North Dakota has been "free" since September 1968.

Montana has not had a case since 1964 and has been hog cholera-free since February 1966.

Wyoming has been "free" since 1968 and has had no cases since 1967.

Southeast

The 12 southeastern States and Puerto Rico account for about 14 percent of the Nation's swine production; however, the 41 positive cases recorded in 1971 were 35 percent of the nationwide total. Even so, this is a sharp reduction from 1970, when 390 southeastern cases represented 57 percent of the Nation's cases.

More than half (24) of the cases occurred in just one State, N.C., with the balance reported in six other States and Puerto Rico. All but four of the year's cases occurred during the first six months.

At the start of the year, Florida was the only hog cholera-free State. Seven States were in Phase IV and four (Va., N.C., S.C., and La.) were in Phase III. At the year's end, five States were "free" (Del., Md., S.C., Ga., Fla., and Ala.), and all others were in Phase IV.

Delaware was declared hog cholera-free on July 29, 1971, after being without a case for

over a year. The State had been in Phase IV since 1967.

Maryland was declared hog cholera-free on October 12, 1971. Her last case was reported in September 1970. Maryland had been in Phase IV since 1967.

Virginia, whose southeastern counties had been involved in the Dismal Swamp operation in 1970, recorded only three positive cases and six exposed in 1971, and those occurred in January and February—none reported since. In the preceding year, Virginia had 116 cases, which made it one of the most heavily infested States for that year. During 1971, Virginia advanced to Phase IV in February and achieved “free” status 11 months later. In July, Virginia banned the feeding of both commercially collected garbage and domestic food wastes to swine.

North Carolina shared with Virginia the difficulties of the 1970 Dismal Swamp operation, but overcame most of the problems early in the year, and in June recorded the last of 1971’s hog cholera cases. Total for the year was 24 positive cases, compared with 140 in 1970 and 208 the year before. North Carolina entered Phase IV in September 1971 after being in Phase III since 1967.

South Carolina experienced no hog cholera outbreaks during 1971 and advanced to Phase IV in March and to “free” status on December 31, 1971. The State is scheduled to outlaw garbage feeding in July of 1973.

Georgia was declared hog cholera-free on April 8, 1971. The State had reported seven confirmed cases in 1970 and none in 1971.

Florida was hog cholera-free throughout the year; however, four cases in January clouded that status until eradication efforts and surveillance determined that spread had not occurred beyond the original outbreaks.

Tennessee was in Phase IV during 1970, having advanced to that stage in October 1969;

however, hog cholera-free status was attained shortly after the New Year, on January 6, 1972. Tennessee’s last positive case was reported in 1970.

Alabama destroyed 27 exposed herds in January 1971, but had no other hog cholera incidence during the year. Only 14 cases were reported during 1970. Alabama entered Phase IV in March of 1970, and achieved “free” status on December 30, 1971.

Mississippi recorded one case in 1970, during July, and remained in Phase IV throughout the year. The State’s good record is largely due to an intensive eradication effort in 1970, when the State had 60 cases.

Louisiana entered Phase IV in February 1971, after being in Phase III since 1966. Only one case was recorded in the State in 1971, in February, compared with seven in 1970 and 46 the preceding year. Louisiana has now banned the feeding of garbage to swine.

Arkansas moved into Phase IV in December 1970, and since then has recorded only one case, in March 1971. Hog cholera incidence in 1970 was only six cases, compared with 93 in 1969.

The Far West

Texas is the only far western State that had any significant hog cholera in 1971, accounting for 55 of the 57 cases in the region during the year. Much the same situation existed in 1970, when Texas had 87 out of the region’s 99 cases.

While these States produce only 4.5 percent of the Nation’s swine, the hog cholera incidence, principally in Texas, is proportionally much larger; 1970’s 99 cases in the West represented 13 percent of the national total, while 1971’s 57 cases represented 48 percent.

At the start of 1971, seven of the region’s 13 States were hog cholera-free, two were in Phase IV, two in Phase III, and one in Phase II. By the end of the year, ten States were “free,” two

(New Mexico and Oklahoma) were in Phase IV and one (Texas) in Phase III.

Texas, as indicated above, has most of the Nation's hog cholera problems. Heavy incidence early in the year resulted in a statewide 60-day "standstill" order and the establishment of a special State-Federal task force at Waco. Outbreaks were brought under control by the summer, and cases dropped off to only one per month in June, July, and September. When no cases were reported for three months, Texas advanced to Phase IV on December 7; however, infection in south Texas was discovered on December 15, resulting in a rapidly increasing number of cases. By the year's end, Texas had recorded nine more positive and 54 exposed cases, and had reverted to Phase III status.

Oklahoma has been in Phase IV since January 1969 and had set a target date of September 1971 for attaining hog cholera-free status; however, that date was set back when the State recorded one positive and five exposed cases in May.

New Mexico entered Phase IV in February 1970. One hog cholera case in January 1971 prevented the State from being declared "free"

during that calendar year; however, New Mexico achieved that status in February 1972.

Arizona was in Phase II at the start of 1971, primarily due to lack of State indemnity funds needed to destroy one exposed herd. Funds became available and the herd was destroyed in January. The State was declared hog cholera-free on May 26, 1971.

Colorado had been in Phase III since 1966, primarily because certain program standards had not been met. Hog cholera had not been known in the State since 1964. The program requirements were met during the year and the State was declared hog cholera-free on October 10, 1971.

Hawaii began 1971 in Phase III, progressed to Phase IV in March, and became hog cholera-free on October 10. No cases have been recorded in Hawaii since May 1967.

All other States in the western region began the year hog cholera-free and have retained that status with no confirmed or exposed cases. *Alaska* and *Idaho* with small swine populations have never had a case. *California* and *Nevada* last reported hog cholera in 1969, and *Oregon*, *Washington*, and *Utah* have had no cases since 1968.

I.—Voluntary Isolation Plan (VIP) For Swine Herd Health

What is VIP?

It is a volunteer plan, approved by animal health officials, designed to help swine producers protect their herds against hog cholera and other contagious diseases. It calls for the setting up of an isolation or quarantine facility to receive new herd additions and separating of the rest of the herd into isolated and independently maintained units.

Who is eligible?

Any swine producer, willing to meet the standards, is eligible. The plan should be of special advantage, however, to the owners of large commercial or purebred swine-producing operations.

What are some of the advantages?

Most importantly, this plan can prevent costly disease problems from developing or spreading. Moreover:

If hog cholera strikes, it may be necessary only to depopulate the isolated unit affected. For other contagious diseases of swine, such as *crisipelas* or *salmonellosis*, it may only be necessary to treat hogs in the isolated unit affected.

There may be marketing and merchandising advantages because buyers are willing to pay better prices for swine raised on inspected VIP premises. And, of course, the VIP designation can be advertised.

The VIP designation may be a means of fulfilling various shipping rules when moving animals to domestic markets or of fulfilling some of the stringent health certification requirements when moving animals or products to foreign markets.

Who supervises the plan?

State and Federal animal health officials in each State or these cooperating animal health officials along with a committee representing the State's swine industry and veterinary profession. Serving as the VIP Committee will be the State Hog Cholera Committee or its equivalent, or a representative group named by the State Hog Cholera Committee.

How are VIP herds designated?

Upon receipt of an application, State and Federal animal health officials, usually acting through the VIP Committee, will designate an inspection team to visit the premises and to make recommendations. If all conditions are met, the cooperating animal health officials act jointly in designating the herd as VIP-qualified. Lists of VIP herds are maintained in each State.

Are lists of VIP herds made public?

VIP herd lists may be published from time to time and must otherwise be accessible to interested people.

How long does a VIP herd retain its designation?

Designation is for 1 year from the date of approval and is renewable yearly provided standards continue to be met as determined by periodic inspections.

Under what circumstances can VIP designations be withdrawn?

Violations of standards or spread of disease between isolated units may result in cancellation or suspension as determined by committee review. Once withdrawn, VIP designation can be regained, also by committee review and provided the rules are fully met.

Herd Requirements—Facilities

In general, swine-raising facilities should be arranged to: (1) avoid the possibility of contact

with swine on neighboring premises and (2) avoid the possibility of contact with wild or domestic animals which might track infection to other premises.

Any special facilities needed?

Yes, an introductory isolation facility used to retain newly acquired swine for a prescribed quarantine period before introducing them to the rest of the herd.

This facility must be physically separated from other swine enclosures by a barrier such as a field, public road, or double-fenced vacant area. This barrier must be substantial enough, in the opinion of the inspection team, to prevent disease from spreading to other herd units.

Also, the facility must be located so that drainage from it cannot contaminate other herd units or neighboring swine premises.

Division of other facilities--

With the owner, the inspection team will carefully review the overall operation to find practical means of dividing the herd into separate and workable units, well-isolated from one another. The aim, of course, is to confine possible health problems to small groups of swine and to prevent disease spread from one unit to another.

Implementing isolation--

The inspection team will determine the number of isolated units required and the physical specifications for each.

Applications cannot be approved until all facilities are arranged to assure maximum integrity and isolation of units.

All units and all swine must be under the Voluntary Isolation Plan.

Herd Requirements—Management

Besides arranging his facilities to achieve isolation of units, a herd owner must put into effect a number of sound management practices:

- He must arrange for the services of an accredited veterinarian.
- His special isolation facility and other isolated units, if any, must be handled as separate operations within the herd.

Caretakers--

It is highly desirable that separate caretakers be assigned to the special isolation facility and each other isolated unit. If this is not feasible, the caretaker assigned to handle two or more units must comply with sanitation instructions the inspection team will provide in writing.

These instructions will describe when and where to clean and disinfect footwear, under what conditions to change outer clothing, and other sanitation measures as may be required by local conditions.

The caretaker assigned to handle the special isolation facility for newly acquired swine must arrange his work schedule for this to be the last stop on daily rounds.

Equipment--

Unless otherwise indicated by the inspection team, separate equipment must be used in each of the isolated units.

If large pieces of equipment, mechanized or otherwise, must be used in more than one unit, the inspection team will provide guidelines for such use and prescribe cleaning and disinfection (C&D) measures to be followed.

C&D measures are extremely important to this effort, and they are the same as those

normally followed by regulatory officials engaged in disease eradication work.

A truck used to make bulk feed deliveries to isolated units must make its final stop of the day at the special isolation facility.

Manure and other waste—

The inspection team will want to make sure that these materials are handled in a way to avoid any possible contamination between units.

What happens when newly acquired swine are received?

All such swine are quarantined upon arrival in the special isolation facility approved for this purpose. They must remain in this facility for at least 30 days.

At the end of the quarantine period, the swine must be inspected by an accredited veterinarian before being allowed to mix with other elements of the herd.

Sentinel pigs—

It is suggested, but not required, that a few “sentinel” pigs from the herd be added to the group of newly acquired swine being placed in the isolation facility.

C&D of the isolation facility—

The special isolation facility must be thoroughly cleaned and disinfected with a USDA-approved disinfectant each time it is vacated and before a new group of swine is allowed to enter.

Can other swine be added to the quarantined group?

Once newly acquired swine are placed in the isolation facility, with or without sentinel pigs from the herd, the owner must not add other newly acquired swine without first checking with animal health officials. Such additions are

discouraged and can only be effected by extending the quarantine period for all swine in isolation—at least 30 days from the last entry.

Visitor control—

Visitors must be kept to an absolute minimum, and the VIP premises must be posted to warn visitors away from hog lots. All visitors are required to change outer clothing and footwear before entering an isolated unit and to disinfect footwear upon entering and leaving a unit.

Recordkeeping—

The owner is obligated to maintain complete herd records including additions and movements out of the herd. These records must show origins or destinations, as appropriate, and identification of the swine involved. In addition, all swine in the herd are to be individually identified.

Records are to be kept for at least 1 year and be available for inspection upon request of animal health officials.

Is garbage feeding allowed?

No. Neither garbage nor table scraps of any kind may be fed to hogs of the VIP herd under any circumstances.

Sanitary measures are to be carried out as recommended by the accredited veterinarian and the inspection team. These include:

- Cleaning and disinfection of feeding, watering, and similar equipment each time a unit is vacated and before a new group of swine are introduced.
- Controlling insects, wildlife, birds, and rodents to keep such populations to a minimum.
- Removing dead swine and aborted fetuses from units immediately upon discovery—to prevent cannibalism—and submitting them for diagnostic examination. The accredited veterinarian or assigned regulatory veterinarian must be promptly notified of any disease condition or

death in the herd. Necropsy and laboratory tests are required to support diagnosis.

Herd Requirements—Reporting

Inspections—

- A State or Federal regulatory veterinarian will inspect the entire herd at least once every 6 months—for health and compliance with VIP standards. Unannounced inspections will be made as appropriate.

- The herd owner or caretaker(s) will inspect the entire herd once a day to locate any sick swine. Any swine showing signs of illness must be immediately separated from healthy swine.

Reports—

- If more than one hog shows signs of illness at any time, the owner or his agent will promptly call the accredited veterinarian for diagnosis.

- The owner, either directly or through his accredited veterinarian, is responsible for notifying State or Federal animal health officials of any illness.

- All laboratory specimens needed for diagnostic tests are to be sent to a State laboratory or to the National Animal Disease Laboratory at Ames, Iowa.

Sickness and death log—

The herd owner is to keep a log of all sickness and death in his herd—making it available to animal health officials upon request. This log will include:

- Date and hour of sickness or death noted
- Number of animals sick in each unit, daily
- Identification of the sick or dead animals
- Clinical signs noted
- When accredited and regulatory veterinarians notified
- Diagnosis of problem
- Disposition of sick and dead animals

What if contagious disease is diagnosed?

All *movement* of swine into and out of the affected unit *must stop* immediately and *cannot be resumed* until authorized by a regulatory veterinarian.

APPLICATION FOR VIP* SWINE HERD DESIGNATION

Applicant's name	Name and location of farm (including county)	
Mailing address	Telephone number	
Type of operation Purebred breeder <input type="checkbox"/> Feeder pig producer <input type="checkbox"/> Farrowing to finish <input type="checkbox"/> Slaughter feeding <input type="checkbox"/>		
If purebred breeder, what breeds?	Number of swine marketed yearly	Number of swine introduced yearly
Briefly describe your operation and facilities (request you attach a separate sheet with diagram of premises showing: types and locations of structures, fences, etc., using approximate distances and dimensions).		
Is your herd currently enrolled in some other herd health plan? Yes <input type="checkbox"/> No <input type="checkbox"/>	If so, indicate what plan and give address of sponsoring organization.	
The accredited veterinarian(s) serving the health needs of your herd:		
Name	Address	
I am interested in the VIP herd health plan and do hereby apply for enrollment.	Applicant's signature	Date

Mail this application to your State veterinarian or to Federal animal health officials in your state.

* The Voluntary Isolation Plan, developed by the U.S. Department of Agriculture and the U.S. Animal Health Association, is offered by State and Federal animal health offices in cooperation with your local livestock industry.

II.—Current Progress—January-June 1972:

The Cooperative State-Federal Hog Cholera Eradication Program has moved ahead in most areas since the end of 1971. However, outbreaks in Texas and several eastern seaboard States have set back the anticipated schedule for nationwide eradication. Even while more States were becoming hog cholera-free, officials fought a stubborn and persistent series of outbreaks that

South Carolina----	January 1
Tennessee-----	January 6
New Hampshire ---	January 11
New Mexico-----	February 2
Louisiana-----	February 5
Virginia-----	March 9
Minnesota-----	March 10
Arkansas-----	March 17

Fifty-eight positive cases were recorded during the first six months of 1972, which is well below the 100 cases reported during the same period for 1971. However, recent cases are definitely a move backward from the trend during the last six months of 1971, when only 18 cases were reported. Greater vigilance undoubtedly accounts for some of the new cases, but the majority appear related to a specific series of infections in Texas and the Carolinas.

At the start of 1972, the full extent of the new outbreak in south Texas was becoming apparent. Nine positive and 54 exposed cases had been discovered in 16 counties within the last 15 days of 1971, and more cases were appearing daily. A State-Federal task force was established at Harlingen, Tex., with more than fifty diagnosticians and inspectors. Federal quarantines were placed on 16 counties, State quarantines on 54. The entire southern third of Texas was under tight restrictions to prevent the spread of hog cholera.

The task force surveyed all premises and markets within the 16-county Federally-quarantined area. All reports of sick pigs were investigated. Between January 1 and February 8, 23

showed how easily hog cholera can reinfect a region, wiping out hard-won progress.

The good news to date in 1972 has been the adoption on February 15 of revising hog cholera eradication regulations, described in this report, and the advancement of 15 States to hog cholera-free status. The new "free" States and the dates on which they were certified are:

Missouri-----	March 21
Ohio-----	April 6
Massachusetts---	April 27
Oklahoma-----	May 4
Indiana-----	May 25
Illinois-----	June 11
Mississippi-----	July 2

infected and 99 exposed herds were located and destroyed. State-Federal indemnities were paid on over 4,000 swine.

By mid-February all premises had been surveyed at least once, and no new cases had been discovered. The situation appeared to be under control.

Hog cholera was down, but it was not out. On March 2, an infected herd was found in Hoke County, N. C. Subsequent cases were found in Robeson, Moore, Greene, and Johnston Counties, N. C., requiring another task force with headquarters successively at Fayetteville, Fort Bragg, and Smithfield, N. C. Between March 1 and June 16, 10 infected and 56 exposed herds totalling 14,000 swine were destroyed. Several cases were traced back through two markets to a single herd of origin, but all of the swine had either died or had been sold off by the time it was located. Further traceback was impossible.

Other cases occurred elsewhere, very probably as a result of meat originating from the North Carolina outbreak area, or because of the diversion of lightweight slaughter hogs to further feeding. Hog cholera was discovered in Florence

County, S. C., on March 16; in Kershaw County on April 14; and Darlington County on April 21. Four infected and 22 exposed herds with 3,100 swine were found in this State.

Georgia recorded its first case in two years when hog cholera was diagnosed in Tattnall County on April 8. On May 5 another herd in the same county was found infected with hog cholera. These and seven exposed herds with a total of 1,600 swine were destroyed.

As a result of these outbreaks, North Carolina reverted from Phase IV to Phase III on April 11, and South Carolina lost its newly-earned "free" status, reverting to Phase III on May 1. Georgia remained hog cholera-free because of the isolated nature of the outbreaks and the rapid destruction of infected and exposed herds.

Evidence that hog cholera is still around was fully confirmed on June 2, when a meat inspector at an Alachua, Fla., meat packing plant identified hog cholera lesions in a slaughtered hog. The identification was confirmed by laboratory tests, and trace back was ordered on all 194 swine in the shipment from four buying stations in Georgia and the Carolinas. No infection was found in any of the herds of origin; however surveillance is continuing.

Other cases occurred in garbage-fed New Jersey swine—on April 7 in Ocean County and on May 23 in Burlington County. Both infected herds were promptly destroyed and indemnities were paid to the owners.

Meanwhile back in Texas all was not well. After the outstanding work of the South Texas task force and a quiet period of 50 days, hog

cholera reappeared—this time in Gonzales and Lavaca Counties on March 24 and 27, respectively. A month later, on April 26, another case was found in Moore County, far to the north in the Texas panhandle; 17 exposed herds were located and destroyed in this outbreak.

New cases soon followed in other counties: Nueces on May 4 and 5, Jim Wells on May 7, Harris on May 30, Webb on June 9, Dawson on June 18, 23 and 24, Terry and Bexar on June 23, and again in Nueces on June 18. Altogether 15 positive and 39 exposed cases occurred in Texas from March through June.

The full potential of these infections for a disastrous epidemic was brought home on June 10, when a herd in Adams County, Neb., was diagnosed positive for hog cholera. Traceback revealed that a slaughter buyer had purchased some boards in Dawson County, Tex., and had diverted some of them to the subsequently infected feeding operation. Except for the vigilance of veterinarians and animal health officials in Nebraska, this case might have had a devastating effect on the midwestern swine industry.

So the fight goes on, with emphasis in a few key areas where hog cholera hangs on with a tenacity that demands maximum eradication effort. Cholera is the ultimate enemy, but close at hand the battle is with its powerful allies—negligence, apathy, and greed. Hog cholera's allies are the failure to cook food scraps fed to hogs, illegal diversion of slaughter swine to feeder herds, lax management of markets, dirty livestock trucks, and the failure to report sick pigs. A hog cholera-free United States is still at least a year away, but with aggressive action and constant vigilance it is within sight.

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